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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,554	08/27/2001	Per Eld Ibsen	980.1109US01	4984

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ALTERA LAW GROUP, LLC  
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MINNEAPOLIS, MN 55344-7704

EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/940,554

**Applicant(s)**

IBSEN ET AL.

**Examiner**

David C. Payne

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 8, 9, 13, 18, 19, 24-29 and 33 is/are rejected.  
7) ☒ Claim(s) 7,10-12,14-17,20-23 and 30-32 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/27/03 & 2/10/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because drawings contain blank boxes and other shapes, which are not widely, recognized engineering symbols. Applicant must supply a suitable legend. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The following are direct quotations of 37 CFR 1.84(n), (o), repeated below:
  - (n) *Symbols.* Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. **Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.**
  - (o) *Legends.* **Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing.** They should contain as few words as possible.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 33 is rejected under 35 U.S.C. 102(b) as being anticipated by Fukushima US 5,805,759 (Fukushima).

Re claim 33, Fukushima disclosed,

A device for controlling a multiple channel communications signal, comprising: means for diffracting the multiple channel communications signal with a first transmission diffraction element (20 of Figure 22); means for diffracting light from the first transmission diffraction element with a second transmission diffraction element (22 of Figure 22); and reflector means (124 of Figure 22) for reflecting the individual channel beams with respective reflectors having selected values of reflectivity; means for focusing light (28 of Figure 22) from the second transmission diffraction element so as to separate individual channel beams at respective reflector means; diffracting light reflected from the reflector means with the second (22 of Figure 22) and first transmission diffraction elements (20 of Figure 22) to produce a multiple channel output signal.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 8, 9, 13, 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima US 5,805,759 (Fukushima).

Re claims 1 and 24, Fukushima disclosed,

A channel power control device/method, comprising: a first multiple channel port (16 of Figure 22); a second multiple channel port (18 of Figure 22); a dispersion region (space between elements 20 and 22) where individual optical channels propagating from the first optical multiple channel port are spaced apart; a diffraction unit (20 of Figure 22) disposed between the first multiple channel port and the dispersion region, the diffraction unit defining wavelength-specific optical paths between the first multiple channel port and respective single channel ports of the plurality of single channel ports, the diffraction unit including at least first (20 of Figure 22) and second transmissive diffraction elements (22 of Figure 22); and a reflector (124 of Figure 22) in the dispersion region disposed to reflect respective individual optical channels from the first multiple channel port to the second multiple channel port.

Fukushima does not disclose a plurality of reflectors. However, it would have been obvious to one of ordinary skill in the art at the time of invention to separate the reflector into a plurality of reflectors as a preferred design choice where size of reflecting elements is of higher concern. Furthermore, making parts separable is not considered patentable over the prior art.

Re claims 2 and 3, Fukushima disclosed

further comprising a first light-focusing unit (28 of Figure 22) disposed on the plurality of

wavelength-specific optical paths between the first multiple channel port and the diffraction unit.

Re claims 4 and 5, Fukushima disclosed a second light-focusing unit disposed on the wavelength-specific optical paths between the diffraction unit and the plurality of reflectors in the embodiment of Figure 22. However, embodiment of Figure 12 shows a second lens (30) used to focus the light onto an output port. It would have been obvious to one of ordinary skill in the art at the time of invention to use the Figure 12 arrangement with two lenses rather than one if the objective was to unfold the input and output ports into a single direction. Furthermore, making parts separable is not considered patentable over the prior art.

Re claims 6, 26, and 27, Fukushima disclosed a polarization separation unit (62 of Figure 12) disposed between the first multiple channel port and the diffraction unit to separate light entering the device from the first multiple channel port into first and second components having mutually orthogonal polarizations.

Re claim 8, Fukushima disclosed a multiple channel waveguide (16 of Figure 22) coupled to the first multiple channel port.

Re claim 9, Fukushima disclosed wherein the reflector has fixed values of reflectivity selected so as to impose a desired reflectivity profile across multiple channels received from the first multiple channel port (124 of Figure 22, single mirror).

Re claims 13 and 29, Fukushima disclosed a dynamically adjustable attenuator (6 of Figure 22) disposed between the diffraction unit and one of the first and second multiple channel ports (see Fukushima e.g., col./line: 5/55-67).

Re claim 25, Fukushima disclosed collimating the multiple channel communications signal before diffracting the multiple channel communications signal with the first transmission diffraction element (28 of Figure 22).

Re claim 28, Fukushima disclosed directing the multiple channel communications signal towards the first transmission diffraction element with a multiple channel waveguide (16 of Figure 22).

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7. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jannson et al. US 5,278,687 (Jannson) in view of Fukushima US 5,805,759 (Fukushima).

Re claim 18, Jannson disclosed

An optical communications system, comprising: an optical transmitter (16 of Figure 1), the optical transmitter transmitting a multiple channel communications signal; an optical receiver to detect optical signals carried in multiple optical channels (32 of Figure 1); a fiber-optic communications link (24 of Figure 1) coupled to transport the multiple channel communications signal from the optical transmitter to the optical receiver; wherein one of the optical transmitter, the optical receiver and the fiber-optic communications link includes a



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multiple wavelength device (26 of Figure 1) having a first multiple channel port; a second multiple channel port; Jannson does not disclose the elements of the demultiplexer as claimed.

Fukushima disclosed,

a dispersion region (space between elements 20 and 22) where individual optical channels propagating from the first optical multiple channel port are spaced apart; a diffraction unit (20 of Figure 22) disposed between the first multiple channel port and the dispersion region, the diffraction unit defining wavelength-specific optical paths between the first multiple channel port and respective single channel ports of the plurality of single channel ports, the diffraction unit including at least first (20 of Figure 22) and second transmissive diffraction elements (22 of Figure 22);

It would have been obvious to one of ordinary skill in the art at the time of invention to place the Fukushima diffractive device into a transmission system such as Jannson's in order to enable a transmission system that has a high tolerance to wavelength shift, low cross talk as disclosed in Jannson, see col./line: 6/1-5.

Jannson does not disclose a plurality of reflectors. However, it would have been obvious to one of ordinary skill in the art at the time of invention to separate the Fukushima reflector's into a plurality of reflectors as a preferred design choice where size of reflecting elements is of higher concern. Furthermore, making parts separable is not considered patentable over the prior art.

Re claim 19, the modified invention of Jannson and Fukushima disclosed a fiber amplifier

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unit disposed along the fiber-optic communications link, wherein the first multiple channel port is coupled to the fiber-optic communications link to receive light amplified in the fiber amplifier unit and the second multiple channel port is coupled to return light to the fiber-optic communications link (see Jannson, e.g., col./line: 36/60-67)

***Allowable Subject Matter***

8. Claims 7, 10-12, 14-17, 20-23 and 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp



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